

Indian Rose Annual - IRA 2007

New Frontiers in Rose Growing : the Evergreen Rose

M.S. Viraraghavan

My dream rose mocks me, "Make me real",

Doubly mocked

For only dream roses are real.

The Rose Breeder's Haiku

The warmer parts of the world-the so-called 'torrid zone' - lying between the Tropics of Cancer and Capricorn, are endowed with rich natural resources, which have traditionally attracted northern invaders. But, sadly, one invader which all of us love - the rose - has never managed to make a significant inroad into the tropics and sub-tropics.

As I will elaborate later this situation has arisen not because there are no roses suited for warm climates but that rose breeding has progressed with an entirely different objective of increasing cold hardiness.

In this background we now have one more feature which deserves the notice of all of us who cherish the dream of the rose being the world's most popular flower. And this is that economic development is rapidly taking place in the warm regions of the world, but, without roses. The consequences of this are not difficult to understand. I cite only two instances. The garden loving state of 'Singapore is singularly bereft of roses. Similarly, Thailand, again one of the 'Asian Tigers', is without roses in its warmer zones. For example, the well-known botanical garden at

Pattaya grows only one rose - a traditional pink unidentified variety, among thousands of other plants.

It is therefore of vital importance that roses suited for warm climates are hybridized, if the rose is to remain the world's most popular flower.

How has rose breeding evolved? The great ancient roses of China, the 'Chinas' and the 'Teas' and their later offspring, the 'Noisettes' are admirably suited for warmth. From the Western point of view, the original introductions from China had one very desirable characteristic - the capacity to flower repeatedly, which simply did not exist in the cold climate roses. This feature was eagerly seized upon and a very large number of new roses were raised with the aim of increasing the cold hardiness of the tender Chinese introductions, while retaining the repeat flowering habit. In this process, the warm climate genes got significantly diluted. For example, the 'Hybrid Perpetuals' have very little of the original 'China' rose genes. Ultimately the 'Hybrid Tea' arrived, and, as more and more generations were raised with one of the main objectives being cold hardiness, it became less and less suited for warm climates. In the warmer parts of India for instance, the modern Hybrid Tea is almost an annual plant and perishes after a couple of seasons.

If we are to expand the frontiers of rose growing we have therefore to take up rose breeding deliberately reversing the Western approach.

What are the ways in which better roses for warm climates can be evolved? Three possible methods appear feasible for such rose breeding:

1. Breeding based on heritage roses which are well established in warm climates, e.g. 'Archduke Charles' ('China'), 'Gruss an Teplitz' and 'Rose Edward' (Bourbons). There are many others.
2. Alternatively, modern roses, of which there are a few, which do well in warmth could be used to raise a new line. In India, older Hybrid Teas like 'Montezuma', 'Confidence' and 'Landora' are obvious choices.

3. Breeding with hitherto unutilized rose species adapted to warm climates, for example, *R. clinophylla* and *R. gigantea* with which I am working, and numerous others.

Strategy 3, though the most difficult, will clearly be ultimately the most rewarding. As the great Wilhelm Kordes of 'Crimson Glory' fame said, the soup ladle would only bring out what was in the soup tureen.

In the tropical situation, selection for beautiful flowers is just not enough. This is for the simple reason that tropical flowering plants are endowed with beautiful evergreen foliage, and the rose, if it is to remain an aristocrat of the garden, has to have singularly beautiful evergreen foliage - such foliage as will enable it to be a beautiful plant even when not in bloom.

This may appear to be an impossible objective but we have one very fortunate advantage, namely, that there are a large number of evergreen rose species which have beautiful foliage, together with the most valuable characteristic of being natives of the warmer parts of the world.

These are the roses which should be utilized in warm climate rose breeding. With this as the basis of my philosophy of rose breeding I have worked extensively with *R. clinophylla* and *R. gigantea*.

Taking up *R. clinophylla*, which is perhaps the world's only tropical rose, we have indeed an unique adaptation to warmth and swampy conditions. This species, which is endowed with lovely evergreen foliage and interestingly scented flowers, exists in 3 forms. The 'Bengal' form adapted to hot moist climates, the 'Bihar' form adapted to hot dry climates, and the 'Mount Abu' form, adapted to desert conditions. A rich genetic endowment indeed! I expect great things from this rose of the eroded marshlands. To quote Kobayashi Issa's haiku

'Even wild roses on an-infertile land reach enlightenment.'

I prefer to interpret this to mean that such a rose reaches enlightenment to the

rose breeder!

The second species on which my work is based is *R. gigantea*, Indian form, which is the world's largest wild rose, reaching up to 25 meters while climbing through trees, which is its natural habitat and with single yellow to white flowers which can reach 15 cms. Jack Harkness described this rose as having six great virtues - health, beauty, vigor, scent, good foliage and remontancy. One other very interesting trait is that *R. gigantea* flowers in peak winter and hybrids with this characteristic would be loved by cut-flower growers in the warm parts of the world who would like to target maximum production for Christmas, New Year and St. Valentine's Day.

My work with *R. gigantea* has progressed faster than with *R. clinophylla* as this species, though somewhat remotely, is in the genetic background of the modern rose.

I come now to the final part of my presentation, namely, what is it we should look for in warm climate rose breeding. Apart from evergreen foliage, we have to put special emphasis on a more rounded plant habit and shrub-like growth, so that the tropical rose fits into the modern garden landscape. The days of exclusive rose gardens are over. Fragrance and disease resistance are of vital importance, but we should not neglect what sets the rose apart from all other flowers - the beautiful Hybrid Tea form, the legacy of *R. gigantea* and not the result of just human intervention.

To my mind this ideal rose will come in all shapes and sizes, and since the emphasis is on roses with beautiful foliage, we have to put a special priority on bringing in the genes of wild roses which are exceptionally well endowed. I am thinking of *R. laevigata*, which while being well adapted to warmth has perhaps the most beautiful of all rose foliage. Fortunately, there is sufficient genetic variation in this species and its hybrids – the original species, other forms of the species – *R. cooperii* and *R. laevigata rosea*, as well as hybrids like 'Anemone' and 'Ramona', which unlike the species have pink to red flowers. These are all diploids. But there is

a very interesting tetraploid raised by Dr. Basye of Texas - the colchicine induced tetraploid from a cross of *R. banksia* and *R. laevigata*. Other rose breeders may of course, select a different evergreen rose species to reach the objective.

But in this welter of genetic diversity we can surely find roses of the future - roses which will expand the frontiers of rose growing.

Ultimately each rose breeder will have to find his way -

*'If you do not get it from yourself,
Where will you go for it?'*

(The Zenrin)

Editors' Note : This is the text of the talk given at the World Rose Convention, Osaka, Japan, in May 2006.

Copies of the original

Indian Rose Annual 2007

New Frontiers in Rose Growing : the Evergreen Rose

M.S. Viraraghavan

*My dream rose mocks me, "Make me real",
Doubly mocked
For only dream roses are real.*

The Rose Breeder's Haiku

The warmer parts of the world-the so-called 'torrid zone' - lying between the Tropics of Cancer and Capricorn, are endowed with rich natural resources, which have traditionally attracted northern invaders. But, sadly, one invader which all of us love - the rose - has never managed to make a significant inroad into the tropics and sub-tropics.

As I will elaborate later this situation has arisen not because there are no roses suited for warm climates but that rose breeding has progressed with an entirely different objective of increasing cold hardiness.

In this background we now have one more feature which deserves the notice of all of us who cherish the dream of the rose being the world's most popular flower. And this is that economic development is rapidly taking place in the warm regions of the world, but, without roses. The consequences of this are not difficult to understand. I cite only two instances. The garden loving state of Singapore is singularly bereft of roses. Similarly, Thailand, again one of the 'Asian Tigers', is without roses in its warmer zones. For example, the well - known botanical garden at Pattaya grows only one rose - a traditional pink unidentified variety, among thousands of other plants.

It is therefore of vital importance that roses suited for warm climates are hybridized, if the rose is to remain the world's most popular flower.

How has rose breeding evolved? The great ancient roses of China, the 'Chinas' and the 'Teas' and their later offspring, the 'Noisettes' are admirably suited for warmth. From the Western point of view, the original introductions from China had one very desirable characteristic - the capacity to flower repeatedly, which simply did not exist in the cold climate roses. This feature was eagerly seized upon and a very large number of new roses were raised with the aim of increasing the cold hardiness of the tender Chinese introductions, while retaining the repeat flowering habit. In this process, the warm climate genes got significantly diluted. For example, the 'Hybrid Perpetuals' have very little of the original 'China' rose genes. Ultimately the 'Hybrid Tea' arrived, and, as more and more generations were raised with one of the main objectives being cold hardiness, it became less and less suited for warm climates. In the warmer parts of India for instance, the modern Hybrid Tea is almost an annual plant and perishes after a couple of seasons.

If we are to expand the frontiers of rose growing we have therefore to take up rose breeding deliberately reversing the Western approach.

What are the ways in which better roses for warm climates can be evolved? Three possible methods appear feasible for such rose breeding:

1. Breeding based on heritage roses which are well established in warm climates. e.g. 'Archduke Charles' ('China'), 'Gruss en Teplitz' and 'Rose Edward' (Bourbons). There are many others.
2. Alternatively, modern roses, of which there are a few, which do well in warmth could be used to raise a new line. In India, older Hybrid Teas like 'Montezuma', 'Confidence' and 'Landora' are obvious choices.
3. Breeding with hitherto unutilized rose species adapted to warm climates, for example, *R. clinophylla* and *R. gigantea* with which I am working, and numerous others.

Strategy 3, though the most difficult, will clearly be ultimately the most rewarding. As the great Wilhelm Kordes of 'Crimson Glory' fame said, the soup ladle would only bring out what was in the soup tureen.

In the tropical situation, selection for beautiful flowers is just not enough. This is for the simple reason that tropical flowering plants are endowed with beautiful evergreen foliage, and the rose, if it is to remain an aristocrat of the garden, has to have singularly beautiful evergreen foliage-such foliage as will enable it to be a beautiful plant even when not in bloom.

This may appear to be an impossible objective but we have one very fortunate advantage, namely, that there are a large number of evergreen rose species which have beautiful foliage, together with the most valuable characteristic of being natives of the warmer parts of the world.

These are the roses which should be utilized in warm climate rose breeding. With this as the basis of my philosophy of rose breeding I have worked extensively with *R. clinophylla* and *R. gigantea*.

Taking up *R. clinophylla*, which is perhaps the world's only tropical rose, we have indeed an unique adaptation to warmth and swampy conditions. This species, which is endowed with lovely evergreen foliage and interestingly scented flowers, exists in 3 forms. The 'Bengal' form adapted to hot moist climates, the 'Bihar' form adapted to hot dry climates, and the 'Mount Abu' form, adapted to desert conditions. A rich genetic endowment indeed! I expect great things from this rose of the eroded marshlands. To quote Kobayashi Issa's haiku

'Even wild roses on an infertile land reach enlightenment.

I prefer to interpret this to mean that such a rose reaches enlightenment to the rose breeder!

The second species on which my work is based is *R. gigantea*, Indian form, which is the world's largest wild rose, reaching up to 25 meters while climbing through trees, which is its natural habitat and with single yellow to white flowers which can reach 15 cms. Jack Harkness described this rose as having six great virtues -health, beauty, vigor, scent, good foliage and remontancy. One other very interesting trait is that *R. gigantea* flowers in peak winter and hybrids with this characteristic would be loved by cut-flower growers in the warm parts of the world who would like to target maximum production for Christmas, New Year and St. Valentine's Day.

My work with *R. gigantea* has progressed faster than with *R. chinophylla* as this species, though somewhat remotely, is in the genetic background of the modern rose.

I come now to the final part of my presentation, namely, what is it we should look for in warm climate rose breeding. Apart from evergreen foliage, we have to put special emphasis on a more rounded plant habit and shrub-like growth, so that the tropical rose fits into the modern garden landscape. The days of exclusive rose gardens are over. Fragrance and disease resistance are of vital importance, but we should not neglect what sets the rose apart from all other flowers - the beautiful Hybrid Tea form, the legacy of *R. gigantea* and not the result of just human intervention.

To my mind this ideal rose will come in all shapes and sizes, and since the emphasis is on roses with beautiful foliage, we have to put a special priority on bringing in the genes of wild roses which are exceptionally well endowed. I am thinking of *R. laevigata*, which while being well adapted to warmth has perhaps the most beautiful of all rose foliage. Fortunately, there is sufficient genetic variation in this species and its hybrids—the original species, other forms of the species - *R. cooperii* and *R. laevigata rosea*, as well as hybrids like 'Anemone' and 'Ramona', which unlike the species have pink to red flowers. These are all diploids. But there is a very interesting tetraploid raised by Dr. Basye of Texas - the colchicine induced tetraploid from a cross of *banksia* and *laevigata*. Other rose breeders may of course, select a different evergreen rose species to reach the objective.

But in this welter of genetic diversity we can surely find roses of the future-roses which will expand the frontiers of rose growing.

Ultimately each rose breeder will have to find his way -

'If you do not get it from yourself,

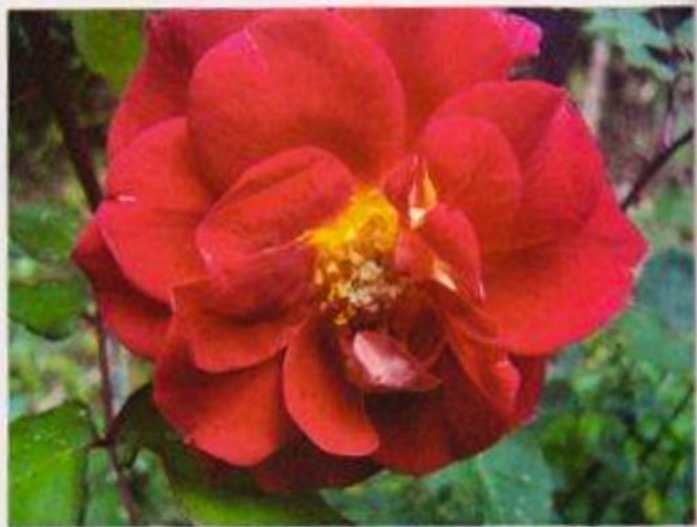
Where will you go for it?'

(The Zenrin)

Editors' Note : This is the text of the talk given at the World Rose Convention, Osaka, Japan, in May 2006.



"Blushing Yuki"
(Silver Jubilee x Priyatama)



"EMINA"
(Unknown Bicolor H.T. x Sirohi Sunrise)
Courtesy : M. S. Viraraghavan